CABI BIOSCIENCE
EGHAM LIBRARY
12 DEC 2006

F O L I A GEOBOTANICA

A Journal of Plant Ecology and Systematics

41 / 2006

INSTITUTE OF BOTANY
ACADEMY OF SCIENCES OF THE CZECH REPUBLIC

FOLIA GEOBOTANICA

A JOURNAL OF PLANT ECOLOGY AND SYSTEMATICS

Founded in 1966 by S. Hejný and J. Moravec
Published by the Institute of Botany, Academy of Sciences of the Czech Republic, Průhonice

Editors
Tomáš Herben, Průhonice (ecology)
Karol Marhold, Bratislava/Praha (systematics)
Milan Chytrý, Brno (vegetation classification)

Associate editors
Judita Lihová, Bratislava (systematics)
Radim Hédl, Brno (vegetation science)

Book review editor
Jindřich Chrtek jun., Průhonice
Jan Pergl, Průhonice

Language editing
Janice Forry
Technical editor
Zuzana Fialová

Editorial office
Institute of Botany, Academy of Sciences of the Czech Republic, CZ-252 43 Průhonice, Czech Republic

Advisory editorial board

M.G. Barbour, Davis
J.C.M. den Nijs, Amsterdam
H.J. During, Utrecht
T. Hara, Sapporo
L. Klimeš, Třeboň
J. Kolbek, Průhonice
F. Krahulec, Průhonice
J. Lepš, České Budějovice
J. Lihová, Bratislava
J. Loidi, Bilbao
J. Moravec, Průhonice (*deceased on 17 September 2006*)
L. Mucina, Phuthadijthaba
G. Nieto Feliner, Madrid
P. Pyšek, Průhonice
M. Rejmánek, Davis
A.J. Richards, Newcastle upon Tyne
J.S. Rodwell, Lancaster
M. Rychnovská, Olomouc
J.H.J. Schaminée, Wageningen
B. Schmid, Zürich
C.A. Stace, Leicester
P. Šmilauer, České Budějovice
J. Štěpánek, Průhonice
M.B. Usher, Edinburgh
M.J.A. Werger, Utrecht
K. Zobel, Tartu

CONTENTS, VOLUME 41 (2006)

Introduction 1

ADAMEC L. & KOVÁŘOVÁ M.: Field growth characteristics of two aquatic carnivorous plants, *Aldrovanda vesiculosa* and *Utricularia australis* 395

CASTRO M. & ROSSELLÓ J.A.: New chromosome numbers for plant taxa endemic to the Balearic Islands 433

CINTRÓN-BERDECÍA S.T. & TREMBLAY R.L.: Spatial variation in phenotypic selection on floral characteristics in an epiphytic orchid 33

ERBEN M. & MUCINA L.: *Limonium failachicum* (*Plumbaginaceae*) – new and so far the only endemic plant from Kuwait 229

GUTIÉRREZ LARENA B., FUERTES AGUILAR J. & NIETO FELINER G.: Dispersal across southern Iberian refugia? Integrating RAPDs, sequence data and morphometrics in *Armeria* (*Plumbaginaceae*) 305

HANDLOVÁ V. & MÜNZBERGOVÁ Z.: Seed banks of managed and degraded grasslands in the Krkonoše Mts., Czech Republic 275

HAYIRLIOĞLU-AYAZ S., İNCEER H. & FROST-OLSEN P.: Chromosome counts in the genus *Alchemilla* (*Rosaceae*) from SW Europe 335

HOULISTON G.J., CHAPMAN H.M. & BICKNELL R.A.: The influence of genotype and environment on the fecundity and facultative expression of apomixis in *Hieracium pilosella* 165

JERSÁKOVÁ J., KINDLMANN P. & RENNER S.S.: Is the colour dimorphism in *Dactylorhiza sambucina* maintained by differential seed viability instead of frequency-dependent selection? 61

KALIGARIČ M., CULIBERG M. & KRAMBERGER B.: Recent vegetation history of the North Adriatic grasslands: expansion and decay of an anthropogenic habitat 241

KINDLMANN P. & JERSÁKOVÁ J.: Effect of floral display on reproductive success in terrestrial orchids 47

KOHLER F., GILLET F., GOBAT J.-M. & BUTTLER A.: Effect of cattle activities on gap colonization in mountain pastures 289

KRAHULEC F., KRAHULCOVÁ A. & PAPOUŠKOVÁ S.: Ploidy level selection during germination and early stages of seedling growth in the progeny of allohexaploid facultative apomict, *Hieracium rubrum* (*Asteraceae*) 407

LIGHT M.H.S. & MACCONAILL M.: Appearance and disappearance of a weedy orchid, *Epipactis helleborine* 77

LÖBEL S., DENGLER J. & HOBOHM C.: Species richness of vascular plants, bryophytes and lichens in dry grasslands: The effects of environment, landscape structure and competition 377

LOSOSOVÁ Z., CHYTRÝ M., CIMALOVÁ Š., OTÝPKOVÁ Z., PYŠEK P. & TICHÝ L.: Classification of weed vegetation of arable land in the Czech Republic and Slovakia 259

MÁRTONFIOVÁ L.: Possible pathways of the gene flow in *Taraxacum* sect. *Ruderalia* 183

MAYOL M. & ROSSELLÓ J.A.: Hybridization studies in *Silene* subgen. *Petrocoptis* (*Caryophyllaceae*) 203

MÜNZBERGOVÁ Z.: Effect of population size on the prospect of species survival 137

NAVRÁTILOVÁ J., NAVRÁTIL J. & HÁJEK M.: Relationships between environmental factors and vegetation in nutrient-enriched fens at fishpond margins 353

PECKERT T. & CHRTEK J. jun.: Mating interactions between coexisting diploid, triploid and tetraploid cytotypes of *Hieracium echioides* (*Asteraceae*) 323

PELLEGRINO G., NOCE M.E., BELLUSCI F. & MUSACCHIO A.: Reproductive biology and conservation genetics of *Serapias vomeracea* (*Orchidaceae*) 21

PFEIFER M. & JETSCHKE G.: Influence of geographical isolation on genetic diversity of *Himantoglossum hircinum* (*Orchidaceae*) 3

RIVERA GÓMEZ N., TREMBLAY R.L. & MELÉNDEZ-ACKERMAN E.: Distribution of life cycle stages in a lithophytic and epiphytic orchid 107

SHEFFERSON R.P., KULL T. & TALI K.: Demographic response to shading and defoliation in two woodland orchids 95

ŠMARDA P.: DNA ploidy levels and intraspecific DNA content variability in Romanian fescues (*Festuca*, *Poaceae*) measured in fresh and herbarium material 417

ŠMILAUEROVÁ M. & ŠMILAUER P.: Co-occurring graminoid and forb species do not differ in their root morphological response to soil heterogeneity 121
SOMLYAY L., PINTÉR I. & CSONTOS P.: Taxonomic studies of the *Muscari botryoides* complex in Hungary 213
ZHANG J.-T., RU W. & LI B.: Relationships between vegetation and climate on the Loess Plateau in China 151

Bookreviews 237, 345, 453

Publication dates of 2005 issues

Vol. 40, No. 1 (pages 1–112) *9 March 2005*
Vol. 40, No. 2-3 (pages 113–318) *23 June 2005*
Vol. 40, No. 4 (pages 319–448) *5 October 2005*

Index of keywords

A

accessory chromosomes 433
agriculture 259
Aldrovanda vesiculosa 395
Alchemilla 335
allohexaploid 407
Alvar 377
AMOVA 3
anthropogenic habitat 241
Anthyllis 433
apomixis 165
aquatic carnivorous plants 395
Arabia 229
Arable land 259
Armeria 305
artificial crosses 203
Asteraceae 165, 183, 323, 407

B

Balearic Islands 433
Balkan Peninsula 417
BIII hybrids 183
biodiversity 289, 377
breeding system 21
bryophytes 407

C

calcareous grassland 3
Caribbean National Forest 33, 107
carnivorous plants 395
Caryophyllaceae 203
cattle 289
CCA ordination 151
Central Europe 353
Cephalanthera longifolia 95
China 151
chromosome counts 335
chromosome number 213, 335, 433
classification 259
climate 151
cluster analysis 229, 259
colour dimorphism 61
community ecology 77
competition 407
conservation genetics 21
contact zone 305
Cymbalaria 433
Cypripedium calceolus 95
cytogeography 213
cytotypes 323
Czech Republic 259, 275, 395

D

Dactylorhiza sambucina 61
dandelion 183
deceptivity 47
defoliation 95
degradation 275
degraded grasslands 275
demographic response 95
density-dependent competition 107
diploid 323
dispersal limitation 377
dispersal 305
diversity 275
DNA content 417
drought 77
dry grasslands 407

E

endemic plant 229, 433
environment 165, 407
environmental factors 353
environmental filters 289
environmental heterogeneity 377
Epipactis helleborine 77
epiphytic orchid 33, 107

F

facultative apomixis 183, 407
facultative expression of apomixis 165
fecundity 165
Festuca ovina group 417
Festuca sect. *Eskia* 417
Festuca valesiaca group 417
fishpond margins 353
flora of Arabia 229
floral display 47
floral characteristics 33
flow cytometry 183, 407, 417
flower colour polymorphism 61
fluctuation 353
forb 121
fragmentation 377
fragmented habitats 137
frequency-dependent selection 61

G

Galium 433
gap colonization 289
gene flow 183
genetic differentiation 3
genetic diversity 3
genetic drift 33
genotype 165
genotype and environment 165
geographical isolation 3
geophytes 95
germination 407
GIS 151
glaciation 305
graminoid 121
grasses 121
growth analysis 395
growth characteristic 395

H

habitat fragmentation 3
habitat mapping 241
herbarium material 417
Hieracium echioides 323
Hieracium pilosella 165
Hieracium rubrum 407
Hieracium subgen. *Pilosella* 323, 407
Himantoglossum hircinum 3
Hungary 213
Hyacinthaceae 213
hybridization 183, 203
hybrids 407
Hypericum 433

I

intraspecific genome size variability 417
intraspecific 417
isolation 3
ITS 305

K

karst grasslands 241
karyology 213
Krkonoše Mts. 275
Kuwait 229

L

land cover 241
landscape structure 407
Lepanthes 33, 107
life cycle 107
life history trade-offs 95
lichens 407
Limonium failachicum 229
litophytic orchid 107
Loess Plateau 151

M

managed grasslands 275
management 275
mark-recapture 77
mating interations 323
matrix models 137
Mediterranean distribution 3
Mediterranean flora 203
microsatellite 21
migrations 305
morphological analysis 213
morphometric 305
mountain grasslands 275
mountain pastures 289
Muscari botryoides complex 213

N

natural selection 33
new species 229
North Adriatic grasslands 241
nutrient-enriched fens 353

O

orchid 21, 33, 47, 77
Orchidaceae 3, 21, 95, 107

P

patches 121
perennials 95
phenotypic selection 33
photoperiod 165
photosynthetic CO_2 affinity 395
phylogeography 305
phytosociology 259
Pilosella 165
plant community 259
plant functional traits 289
plant performance 137
Pleurothallidinae 107
ploidy level 407, 417
Plumbaginaceae 229, 305
Poaceae 417
pollen competition 323
pollen diagrams 241

pollination biology 21
pollinator discrimination 61
Polygonum 433
polyhaploids 407
polyploidy 213, 335, 417
population dynamics 107
population size 137
population viability analysis 137
principal response curves 289
progeny classes 407
progeny 407
Puerto Rico 33, 107

R

RAPDs 305
rare species 137
reestablishment 275
reforestation 241
refugia 305
reproductive barriers 323
reproductive biology 21
reproductive success 47
resource allocation 95
reward 47
rewardless flowers 61
Romania 417
root morphological response 121
Rosaceae 335
rupicolous plants 203

S

Sabkha 229
Scorzonera hispanica 137
seasonal variability 121
seed bank 275
seed production 137
seed viability 61
seedling growth 407
selection 33, 407
sequence data 305
Serapias vomeracea 21
sexual reproduction 165
shading 95
shallow dystrophic waters 395
Silene subgen. *Petrocoptis* 203
Slovakia 259
soil heterogeneity 121
soil nutrients 121
soil pH 377
southern Iberian refugia 305
south-west Europe 335
spatial autocorrelation 377
spatial heterogeneity 275
spatial monitoring 289
spatial variation 33
species richness 407
species survival 137
specific root length 121
stages 107
Stellarietea mediae 259
Swiss Jura Mountains 289

T

Taraxacum sect. *Ruderalia* 183
taxonomic boundaries 203
taxonomy 213, 229
temporal dynamics 241
terrestial orchids 47
tetraploid 323
transgenic pollen 165
triploid 323
trnL-F 305
Třeboň 353

U

unreduced gametes 323
Utricularia australis 395

V

vascular plants 407
vegetation formations 151
vegetation history 241
vegetation map 151
vegetation survey 259
vegetation 151, 353
vegetation-climate relationships 151

W

water chemistry 395
water level and chemistry 353
weed vegetation 259
weedy orchid 77
wetlands 353
woodland orchids 95

Balslev H.
Bellingham P.
Bergmeier E.
Botta-Dukát Z. *
Box E.
Bragazza L.
Brokaw N.

List of reviewers in 2006

Bruelheide H.
Čarni A.
den Nijs H.
Diekmann M.
Dimopoulos P.
Doležal J.*
Dostál P.*
Ehrlén J.
Ewald J.
Felber F.
Greilhuber J.
Gunarsson U.
Hájek M.*
Hédl R.*
Hellquist C.B.
Hogg T.
Horváth F.
Chiarrucci A.*
Chrtek J.
Chytrý M.*
Kalliola R.
Kirby K.
Klimeš L.*
Klotz S.
Kolbek J.
Krahulec F.*
Kühn I.*
Kyncl T.
Lepš J.*
Loidi J.*
Lysák M.
Malmer N.
Mártonfi P.
Mölder A.
Mucina L.
Münzbergová Z.*
Nakashizuka T.
Neuhaüslová Z.
Oostermeijer G.
Parolin P.
Passalacqua N.G.
Peco B.
Peltzer D.
Prach K.
Pyšek P.*
Rejmánek M.*
Roleček J.
Roselló J.A.
Rydin H.
Schmidtlein S.
Sklenář P.
Spribille T.
Stace C.A.
Strid A.
Suchara I.
Šmilauer P.*
Tackenberg O.
Tahvanainen T.
Tichý L.
Vašut R.J.
Weber H.E.
Wilkin P.
Wilson B.
Zobel K.

Reviewers who made two or more reviews are marked by an asterisk.